



COR 1171  
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22 NOV 1961

MEMORANDUM FOR: Chief, Special Projects Branch, DPD

SUBJECT : Estimate of Weather Forecasting Capabilities  
as Applied to Future CORONA Missions.

REFERENCE : Memo COR 1139, dated 11 November 1961

1. To be realistic, any quantitative statement on weather forecasting capability must be qualified in relation to the element being forecast, the spread in values which may be considered accurate, the time-range of the forecast, the particular place for which the forecast is made and the operational factors to be considered by the forecaster. This paper deals only with forecasts of cloud cover within the limits of favorable (4/8 or less) and unfavorable categories. It is further limited to forecasts for areas and locations in the USSR, valid near noon local sun time.

2. Operational factors considered by the forecaster have a great effect upon the reliability of his product. For example: We may consider spot forecasts for USSR targets made under two different operational conditions. In condition one, positive good weather must prevail over the target and the mission can be delayed indefinitely until good weather is forecast. In condition two, time is a major consideration. The mission must be accomplished at the earliest possible date and any possibility of good weather must be predicted. WECCN records of past performances indicate that the average reliability of spot forecasts made under these two extreme conditions is as follows:

	Forecast Range		
	24 hr.	48 hr.	72 hr.
Condition one	85%	79%	63%
Condition two	65%	63%	43%

As can be seen, differences in the forecasting problem dictated by specific operational requirements results in a difference of 20% in forecast reliability.

NRO review(s)  
completed.

## EXPLANATION:

Chief, Weather Staff, DPD

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<u>Decision</u> <u>Out-off Time</u>	<u>Forecast</u> <u>File Time</u>	<u>Forecast</u> <u>Range</u>	<u>Forecast</u> <u>Reliability</u>
L - 0 hrs. 2000Z	1700Z	36 Hours	73%
L - 4 hrs. 1600Z	1300Z	36 Hours	73%
L - 8 hrs. 1200Z	0900Z	48 Hours	71%
L - 12 hrs. 0800Z	0500Z	48 Hours	71%
L - 16 hrs. 0400Z	0100Z	48 Hours	71%
L - 20 hrs. 0000Z	2100Z	60 Hours	61%
L - 24 hrs. 2000Z	1700Z	60 Hours	61%
L - 28 hrs. 1600Z	1300Z	60 Hours	61%
L - 32 hrs. 1200Z	0900Z	72 Hours	53%

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